

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Somont Water Flood Water Injection Wells, State 62, 63, 64, 65
Proposed Implementation Date:	Winter 2013
Proponent:	Somont Oil Company, Inc., 16126 Chasemore Drive, Spring, TX 77379
Location:	SW¼, Section 36, T35N, R2W
County:	Toole
Trust:	Common Schools

I. TYPE AND PURPOSE OF ACTION

Somont Oil Company, Inc. has requested permission to drill 4 water injection wells in association with their proposed water flood on state land. A description of the water flood plan is attached to this EAc. These wells are located on classified agricultural land. After drilling operations have been completed, the disturbed areas will be reclaimed, recontoured, and the topsoil redistributed over the area. The site will then be returned to productive farm land around the wells. The well sites will be accessed by using the existing 2 track roads and cross country travel. Buried pipelines will be installed between wells to supply injection water to the wells.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

Somont Oil Company, Inc.-Lessee and Operator
DNRC-Surface and Mineral Owner
Montana Board of Oil and Gas Conservation

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

The opponent has gone before the Montana Board of Oil and Gas regarding this project and received approval for drilling of injection wells and a waiver of well density requirements within the State section. Montana Board of Oil and Gas Conservation permit form 22 has been submitted for each well. Somont Oil Company, Inc. has the State of Montana Oil and Gas lease #OG-39088-09 associated with this state land. DNRC is not aware of any other agencies with jurisdiction or other permits needed to complete this project.

3. ALTERNATIVES CONSIDERED:

Alternative A (No Action) – Deny Somont Oil Company, Inc. permission to drill the 4 injection wells.

Alternative B (the Proposed action) – Grant Somont Oil Company, Inc. permission to drill the 4 injection wells using the Conrad Unit Office's recommendations to minimize adverse environmental impacts.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

Soils at the proposed well sites are silty to clayey in texture. Topography is gently rolling hills and suitable for well development. The proposed action may cause localized areas of soil erosion and compaction from the manipulation of vehicles and equipment on the surface. The top 12 inches of soil will be removed from the well site and stock piled for reclamation purposes. Existing roads and cross country travel will be used to access well sites. Road improvements will be held to a minimum. Access roads may only be used when the topsoil is dry or frozen to minimize soil erosion and compaction. Following drilling, the disturbed areas around the well sites will be returned to farmland. No long-term negative impacts on the soil resources are expected.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

There is one documented and/or recorded water rights associated with the proposed tract. Water right 41N-240600 located in the NWSWNE, Section 36, T35N, R2W for an unnamed tributary of closed basin for stock and wildlife/waterfowl has been filed by the Montana State Board of Land Commissioners.

Produced waters from adjacent private land will be used to for the water floodThe Montana Board of Oil and Gas has jurisdiction over these injection wells.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

Dirt work associated with pad building, access road building, well drilling, and vehicle traffic on the access roads will generate airborne dust. These activities will minimally affect air quality for a very limited amount of time. No cumulative effects to air quality are anticipated.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Farming operations in this project area will be negatively impacted. About 1-2 acres (per well) of classified agricultural land will be impacted by the removal of topsoil and the manipulation of vehicles on the ground surface at the well site locations and the access roads. The proponents will be responsible for noxious weeds that may arise from implementing this proposed action. The sites will be returned to agricultural land, farming around well heads, following site reclamation.

A review of Natural Heritage data through the NRIS was conducted and there were no plant species of concern noted or potential species of concern noted on the NRIS survey.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

The area is not considered critical wildlife habitat. However, this tract provides habitat for a variety of big game species (mule deer, whitetail deer, pronghorn antelope), predators (coyote, fox, badger), upland game birds (sharp tail grouse, Hungarian partridge), other non-game mammals, raptors and various songbirds. The proposal does not include any land use change which would yield changes to the wildlife habitat. The proposed action will not impact wildlife forage, cover, or traveling corridors. Nor will this action change the juxtaposition of wildlife forage, water, or hiding and thermal cover. Wildlife usage is expected to return to "normal" (pre-action usage) following the drilling operations. The proposed action will not have long-term negative effects on existing wildlife species and/or wildlife habitat.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

A review of Natural Heritage data through the NRIS was conducted. There were five animal species of concern and two potential species of concern noted on the NRIS survey.

The chestnut-collared longspur, McCown's longspur, Brewer's sparrow, and silver-haired bat were found to be potentially located in this area. All of these species are generally associated with habitat consisting of native rangeland. This tract contains features that may allow for use by these species, but given the fact the proposal does not include any activities which would permanently alter any habitat, any effects are not expected in either alternative.

The ferruginous hawk and Swainson's hawk were found to be potential located in the general area. The hawks are generally associated with needing cliffs, trees, or mid-elevation slopes for nesting. The tract contains none of these features, so these species of concern will likely be transient on this tract. No direct, indirect, or cumulative effects are expected to these species of concern.

The sharp-tailed grouse is generally associated with habitat consisting of grasslands interspersed with shrubs and brush filled coulees. The tract contains none of these features, so this species of concern will likely be transient on this tract. No direct, indirect, or cumulative effects are expected to this species of concern.

There are no threatened or endangered species, sensitive habitat types, or other species of special concern associated with the proposed project area.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

The project area has been farmed for several decades. Therefore, cultural resources will not be impacted.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

The proposed action will occur in a remote area and will not cause a large change in the aesthetic character of the land. The main industries in this area are agricultural, grazing, and oil and gas production. Daytime noise levels may slightly increase during the time of the project, but noise levels will return to "normal" (pre-action conditions) after the project is completed. No other changes to the aesthetics character of the land area are expected.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

High volumes of produced waters will be used for this project. The demands on environmental resources such as land, air, or energy will not be affected by the proposed action. The proposed action will not consume resources that are limited in the area. There are no other projects in the area that will affect the proposed project.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

There are no other projects or plans being considered on the tract listed on this EA.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES* potentially impacted are listed on the form, followed by common issues that would be considered.
- Explain **POTENTIAL IMPACTS AND MITIGATIONS** following each resource heading.
- Enter "NONE" if no impacts are identified or the resource is not present.

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

The proposed wells will not change human safety in the area.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

The intent of the proponent's action is use a water flood for secondary recovery of oil on adjacent state land. Activities associated with the proposed action will affect the surface use of the land (agricultural) where the surface lessee will have to farm around wellheads. A minimal amount of acreage will be taken out of production if when wells are developed. All actual damages to the surface will need to be mitigated between the surface lessee and the proponents. The project will not add to or deter from other industrial, commercial, or agricultural activities in the area.

No direct or cumulative impacts are anticipated as a result of the proposal.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

The proposed action will create several well drilling jobs and generally add to the economy of surrounding communities.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

The proposed action could potentially add to the tax revenue.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

There will be increased local traffic. Wildland fire protection or police services will remain unchanged.

There will be no direct or cumulative effects on government services.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

The proposed action is in compliance with State and County laws. No other management plans are in effect for the area.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

This tract of state land is rural and generally has low recreational value. The tract is legally accessible and the proposed action is not expected to impact general recreational and wilderness activities on this state tract.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing

The proposal does not include any changes to housing or developments.

No direct or cumulative effects to population or housing are anticipated.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

There are no native, unique or traditional lifestyles or communities in the vicinity that would be impacted by the proposal.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

The proposed action will not impact the cultural uniqueness or diversity of the area.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

The proponents have interest in the State of Montana Oil and Gas Lease #OG-39088-09 that is associated with this state tract. This lease entitles them to reasonable development of oil and gas wells on this tract after DNRC approval. A detailed and/or conclusive engineering report was not completed for this project. This water flood project may potentially increase oil revenues to the school trust. However, oil resources may be pushed in an opposite direction, onto other adjacent private lands, compromising school trust revenues and resources.

EA Checklist Prepared By:	Name: Erik Eneboe	Date: November 22, 2013
	Title: Conrad Unit Manager, CLO	

V. FINDINGS

25. ALTERNATIVE SELECTED:

Alternative B (the Proposed action)

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The completion of this EA did not identify impacts that were raised to such a level as to call them significant.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

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EIS

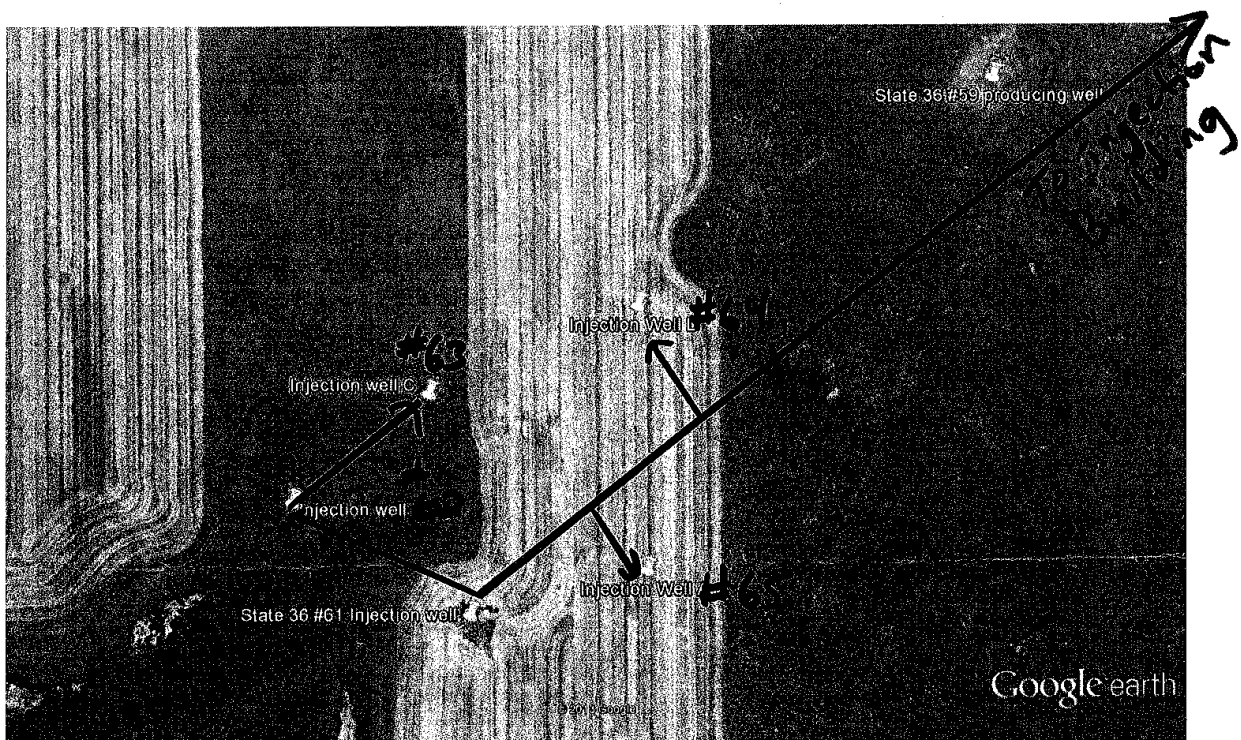
☐

More Detailed EA

☒

No Further Analysis

EA Checklist Approved By:	Name: Hoyt Richards
	Title: CLO Area Manager
Signature: /s/ Date: December 30	



Google earth



State 36 lease

Injection lines to 4 proposed injection wells

35N 2W Section 36

#62

#63

#64

#65

RECEIVED

DEC 04 2013

DNRC CONRAD UNIT

Joe Alborano

From: Somont Oil [somontoil@gmail.com]
Sent: Friday, September 27, 2013 9:20 AM
To: Joe Alborano; Lorri Housel
Subject: Information for Mr. Eneboe
Attachments: two sketches.pdf

Joe,

I understand that Mr. Eneboe has asked us to provide him with a plan for development of our Section 36 waterflood. I gather that he expressed concern that three of the producers we had drilled had not yet been hooked up and I understand from Brian Lee that he believed that producers should be hooked up right after they are drilled based on his experience with the MCR operations.

I cannot speak of what MCR does because I have no knowledge of their operations but I will summarize the general plan of ours for the Section 36 waterflood which you can pass on to Mr. Eneboe as appropriate. You might also direct him to MBOG Order 358-2012 which vacated all well spacing, location, and setback requirements on our Section 36 lease excepting for a 220' setback from the exterior boundary and MBOG Orders 359-2012 which granted us an area injection permit for the NE4SW4NE4, S2SW4NE4, NW4SE4 and NE4SW4 of Section 36. I do know that the engineer for the DNRC attended the MBOG hearings on this matter and should also be able to provide Mr. Eneboe further insight.

Anyway, as can be noted from the first attached sketch called "240 acres out of Section 36", the dashed lines depict what we believe to be the approximate extent of the productive Swift Sandstone Pod which we believe drifts significantly over into Section 31 of T35NR1W and also to a lesser extent into the S2SW4 of Section 30 of T35NR1W. It is our belief that this Swift Sandstone Pod is generally similar to the Swift Sandstone Pod in Sections 27 and 28 of T35NR1W that we have been waterflooding for the past 20 years under a unitization agreement managed by the BLM (we refer to this as our FSFU [Ferdig Swift Flood Unit]).

Based on our review of the many old well records existing in the area I believe that the reservoir seems to be a bit lower at the southwest end and trends higher as you go to the northeast. Since all of the original wells on this lease have long since been plugged, it is our plan to try this flood generally as a "line drive" flood initially. This basically means that we want to go to one end and shove water in the ground and re-pressurize the reservoir. Once there is some energy returned to the reservoir (in the form of pressure) we hope it will build an oil bank in front of it and start moving oil under pressure towards the northeast, where we will then be able to produce it.

So on the first sketch called "240 acres out of Section 36" our initial efforts were to drill the #61 well and get the water injection started. Once that got underway, we then plan to monitor the results from the existing producers drilled and see when they start building up some bottom hole pressure (measured by the fluid height in the well bore which we can determine by running a sinker bar down the well bore). That is what will enable us to monitor the progress of our pre-pressurization effort.

This project has a number of complexities due to the fact that there are in all likelihood a number of old well bores that were improperly plugged, which can cause a variety of problems both seen and unseen. The obvious problem that is seen, which has occurred around ten times at our FSFU, is that the old well bore was improperly plugged above the Swift and as the area gets pressured up, the old well bore starts leaking to the surface. When this happens, all we can do is put a rig over the old well

bore and clean it out and either properly plug it or turn it into a producer or injector, depending on the individual circumstances in each particular case. We've done that around ten times at the FSFU and I have no doubt we'll be doing it a number of times here as well.

The unseen problems are caused if the well was improperly plugged such that the Swift formation and the underlying Madison are still in communication. If this happens, we will never be able to pressurize that area up as any water you inject will have the same effect as it would to pump a firehose into the ocean. So in those instances where we note that we cannot pressure up, we will have to turn the injector into a producer and keep the well pumped down which will ensure that any Swift oil pushed into the well bore will be pumped out of the well rather than be lost into the Madison since the Madison still does have a positive, although small, bottom hole pressure.

It was very important to get the first injector drilled and put into operation so that we could see if the zone would take water because we have no cores for this area and much of our design was based on the presumption that the Section 36 Swift Pod is generally similar to the FSFU Swift Pod. So it was very important for us to make sure that we could in fact inject water before drilling any more injectors.

The results in the #61 well have been very interesting because it has taken significant amounts of water, initially on a surface vacuum, which had us concerned that the old MBOG records for the exact location of the #51 well may have been incorrect (refer to my second sketch) and that we in fact put the #61 well right next to the old #51 well bore. On the other hand, since the Swift in the area is a volumetric reservoir that was basically pumped "dry" under primary recovery, it is to be expected that it would take a little while to put in enough fluid to even register any pressure at the surface and since over the past week or so we have seen the surface pressure gradually start to increase at the wellhead, I am optimistic that we are indeed starting to pressure up a little in the immediate vicinity of the well bore. However, even if this does not prove to be the case, we can simply turn this into a producer as discussed earlier.

The first actual producer that you have put into operation was the #59 well which is the one closest to the injection point and which is the one that would most likely first start seeing the pressure pulse (although that is not certain because the Swift is not homogenous and there could therefore be permeability streaks which could theoretically cause pressure increases to "bypass" the #59 well). As I understand it, this well got turned on and is producing because we believe the old well that it twinned seems to have been improperly plugged and, as a result, we are probably getting Madison oil even though our #59 well was bottomed out in the Swift and did not get within 100' of the Madison. We are quite certain that we are getting Madison oil in this well because it has some sour gas and there is no sour gas in the Swift.

Were it not for the fact that this well (the #59) is connected to the Madison, I believe you would not be able to produce it at the present but, rather, would have to just periodically test it with a sinker bar as you will be doing with the #57, #58 and #60.

So with that rather lengthy preamble, our "plans" at the moment are simply to drill four more wells at the southwest end of the reservoir, initially set to be injectors, so that we can start shoving as much water as we can into the southwest part of the pod to get an oil bank moving to the northeast. All other things being equal, the more water we can put in, the quicker any response time will be. If the results we obtained for the FSFU are a measure of what we can expect, it will be at least several years before we see anything significant happening as it is going to take a long time to replace (with water) all of the oil that got removed from the reservoir in the 1920's and thereafter.

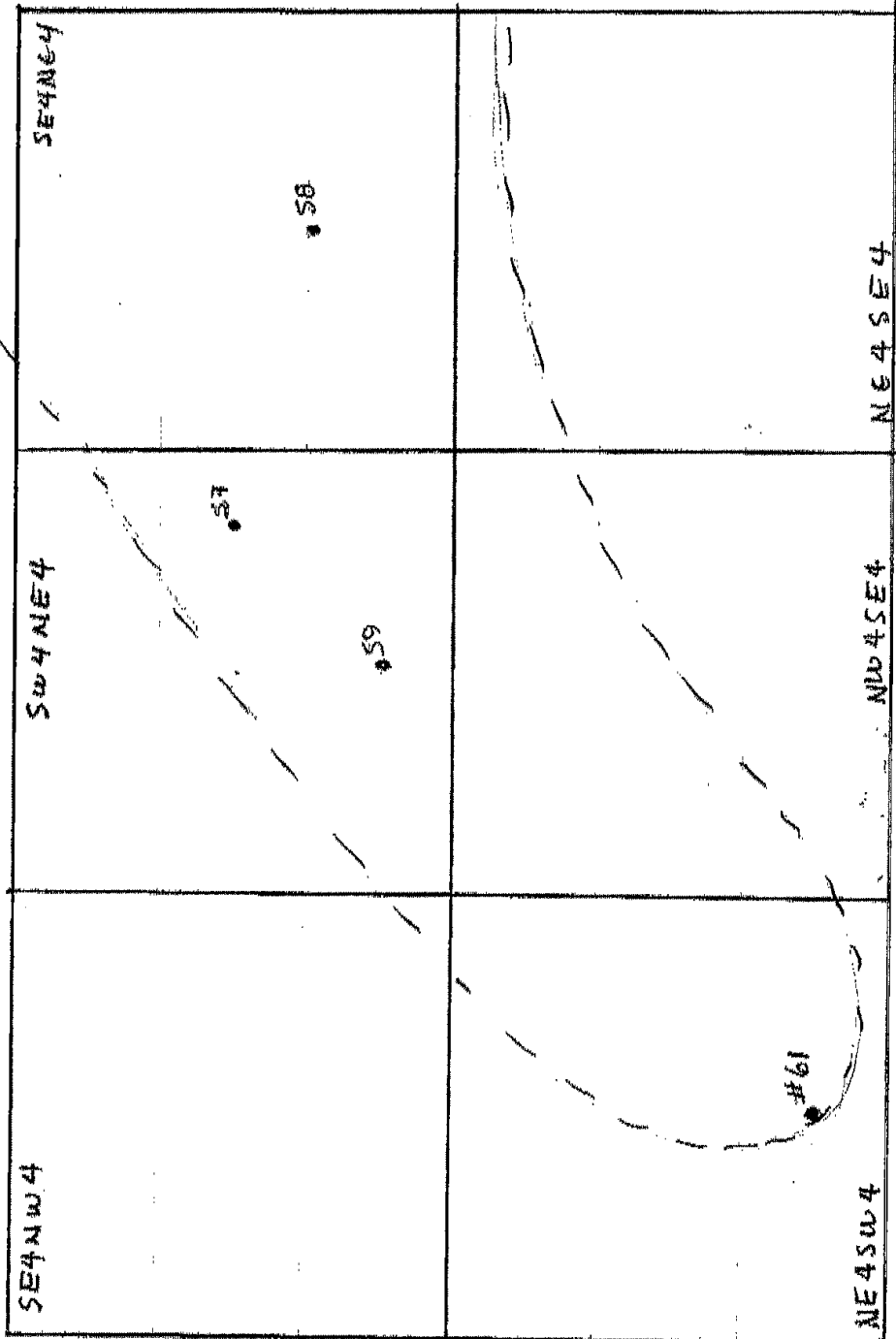
The second sketch called "NE4SW4 Section 36" shows all of the old wells in that quarter quarter section along with the "new" #61 well and the four approximate locations that you and I discussed for new injectors (labeled A, B, C, and D).

Please make sure that you and I have the same understanding about all of this and then you are certainly free to share it all with Mr. Eneboe although please do ask him to not share it outside the DNRC.

Herk

• 60
CJ 9/10/13

240 Acres out of Section 36



NE4SW4 Section 36

CJ 9/18/13

